

OPEN LETTERS.

Identification of fossil leaves.

After reading the article "On the validity of some fossil species of *Liriodendron*," which I was kindly permitted to see in manuscript, I at first concluded that the personal nature of the contribution would render it impossible of comment by me. I have never yet entered into a personal controversy and do not care to begin now.

The author, has, however, given evidence of such remarkable failure to understand or appreciate the principles upon which paleobotany is founded that I shall say a few words on behalf of paleobotanists in general.

In the first place the mission of the paleobotanist is to describe and depict the fragments of vegetation with which he has to deal, in order that these fragments—a leaf, a fruit, a seed, a portion of a stem, etc.—may be recognized in the event of a similar fragment being found elsewhere at any future time. The naming of the fragment is an incident only, but it is a purely gratuitous assumption that earnest and conscientious thought and investigation are not given to this part of the work. The fragments are constantly coming to light, clamoring for recognition, and they cannot be ignored. It would be worse than folly to wait until perfect material should be found, before describing, merely because the exact affinities of a fossil fragment with our living flora could not be satisfactorily determined.

I am criticised for accepting the opinion of competent authorities in regard to the affinities of certain emarginate leaves from the cretaceous formation, with our living genus *Liriodendron*. While I am quite satisfied that the facts adduced warranted the inferences regarding this and other affinities, I am free to add that new material, recently collected on Long Island and Martha's Vineyard, will demonstrate the relationship even more clearly and, when described and published, will render any reference or reply to the foregoing paper unnecessary.

One other matter of principle needs to be touched upon. The possible relationship of the above mentioned leaves with the Leguminosæ is well taken, but this idea did not originate with the author. Unless however such relationship can be absolutely demonstrated, and the leaves referred without question to some living or extinct genus, a mere multiplication of synonymy would be inexcusable. So I shall continue to call the leaf found on Eaton's Neck, Long Island, *Colutea primordialis* Heer, not necessarily because I believe it to be placed in its correct genus or order, according to modern systematic botany, but because it is clearly the same species as the leaf described by Heer under that name from Greenland.—ARTHUR HOLLICK, *Columbia College, New York.*